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CONTACT: Adam Segal, 202-331-5420

NEW REPORT UNDERESTIMATES COST OF EXPANDING NUCLEAR
CAPACITY, OVERSTATES POWER PLANT SAFETY AND SECURITY, SCIENCE
GROUP SAYS

REPORT CORRECTLY CONCLUDES REPROCESSING POSES SERIOUS
PROLIFERATION, TERRORISM RISKS

WASHINGTON (June 14, 2007) – A report released today on the potential role of nuclear power in addressing global warming received mixed reviews from the Union of Concerned Scientists (UCS).

The report, sponsored by the Keystone Center and written by nuclear industry representatives, environmental and consumer advocates, academics, and state officials, examined a number of key issues, including waste disposal, safety and security, proliferation risks, and cost. The “joint fact-finding” process began in March 2006. (For the report, go to: www.keystone.org/.)

UCS experts found that the Keystone report underestimated the cost of expanding nuclear capacity, and overstated the safety and security of nuclear plants. The science group, however, agreed with the report’s conclusion that reprocessing poses a serious risk for proliferation and terrorism, and that spent nuclear fuel should be disposed of in an underground geologic repository rather than stored or used again as fuel.

“Before we consider expanding the capacity of nuclear power, the industry has to adequately address safety, security, waste and proliferation issues,” said Alden Meyer, UCS’s director of strategy and policy. “There are faster, safer and significantly cheaper ways to meet our energy needs, including renewable energy sources and cogeneration technologies that produce both heat and power. Nuclear power is not a current solution for global warming.”

The 27 Keystone participants included Peter Bradford, the vice chairman of UCS’s board of directors, a former member of the Nuclear Regulatory Commission (NRC), and a former chair of the New York and Maine utility commissions. Like all of the panelists, Bradford did not represent the official position of any organization.

REPORT UNDERESTIMATES COSTS

The Keystone participants did not agree on whether nuclear expansion is likely or not. But the panelists did reach a consensus on several points that illustrate the significant obstacles to expansion.

For example, they concluded that providing a “wedge” of carbon emission reductions (a widely used measure of a meaningful contribution, equal to 1 billion tons of carbon dioxide per year by 2050, developed by Princeton’s Pacala and Socolow) would require,

over the next 50 years, building about 21 new 1,000 megawatt (MW) reactors worldwide each year, plus adding as many as 22 new enrichment plants to the 17 now in existence, 18 new fuel fabrication plants to the 24 currently operating, and 10 nuclear waste repositories the size of the proposed facility at Yucca Mountain in Nevada. The United States would have to build about five of the new 21 reactors every year. UCS experts find this scenario unlikely.

The Keystone panelists projected that the cost of nuclear power would be from 8. to 11 cents per kilowatt hour (kWh) (in 2007 dollars). By comparison, UCS experts pointed out that the average U.S. price of wind energy was 4.9 cents per kWh in 2006 (after tax credits worth about 2 cents per kWh) and is projected to cost as much as 6.3 cents per kWh in the near term due to an increase in construction costs affecting all technologies. Energy efficiency improvements, meanwhile, cost less than 4 cents per kWh.

Keystone report calculations for likely nuclear power costs are low, according to Alan Noguee, director of UCS's Clean Energy Program. "The Keystone analysis relied on Asian reactor construction costs as a starting point for their calculations, but construction wages in the United States are higher than the Asian average. We doubt U.S. construction workers who earn 55 percent more than their Korean counterparts will agree to major wage cuts."

The report also likely underestimated the cost of decommissioning the power plants, Noguee added. "The Keystone analysis assumes it will cost \$500 million per reactor," he said, "but the cost of decommissioning the Yankee Rowe plant in Vermont cost about \$800 million for a plant that is half the size of the proposed new reactors."

REPORT OVERSTATES PLANT SAFETY AND SECURITY The Keystone report's executive summary states that "commercial nuclear power plants in the [United States] are safer today than they were before the 1979 accident at Three Mile Island."

"Nuclear plants are arguably safer today than they were a quarter century ago, but it remains unclear that that means they are safe enough," said Dave Lochbaum, director of UCS's Nuclear Safety Project. "It's akin to saying that a car speeding past children in a school zone at 80 miles per hour is safer than traveling at 90 miles an hour."

Nuclear plants today operate at higher risk and higher cost than necessary because of ineffective regulatory oversight, he said. For example, a 2006 UCS report documented 47 incidences in which U.S. reactors had to be shut down for at least a year for safety reasons over the last three decades.

(The 2006 report is available at

www.ucsusa.org/clean_energy/nuclear_safety/unlearned-lessons-from.html)

"The good news is that none of these 47 incidents led to a reactor meltdown, but the bad news is that it's like a doctor who allows his patients to deteriorate to the point of coma before giving them medicine,"

said Lochbaum. “The NRC unfortunately has a strong track record of regulatory malpractice.”

The Keystone panelists, meanwhile, disagreed over whether U.S. nuclear sites are secure against terrorist attacks. UCS agrees with the Keystone report’s conclusion that “[t]he public ought to be able to trust both the nuclear industry and the federal agency conducting its security oversight.” The report points out that the Government Accountability Office, the National Academy of Sciences and the NRC inspector general all have found the NRC’s post-9/11 security measures lacking. “There’s no reason for the public to suspect, yet alone believe, that the NRC has done enough to protect it from attempted sabotage at a nuclear plant,” Lochbaum said.

UCS ENDORSES KEYSTONE CONCLUSION ON WASTE AND REPROCESSING

UCS experts commended the Keystone panelists for endorsing direct disposal of spent fuel in “a deep underground geologic repository” and strongly agree with their finding that spent nuclear fuel reprocessing plants and other “bulk-handling facilities,” as well as the large and growing civilian stockpiles of separated plutonium, pose serious risks of nuclear proliferation and nuclear terrorism.

The report noted that the growing stockpiles of civilian separated plutonium pose a “significant proliferation risk” and a “risk of weapons development by sub-national terrorist organizations,” and that they “require extraordinary protection and international attention.” UCS supports disposing of these stocks of separated plutonium by immobilizing them with high-level radioactive waste and placing them directly in a geologic repository along with spent fuel.

UCS concurs with the Keystone panelists’ finding that “a principal proliferation concern is the diversion or theft of material from bulk fuel handling facilities,” such as reprocessing and mixed oxide fuel fabrication plants.

Finally, UCS agrees with the Keystone panelists’ conclusion that the Bush administration's Global Nuclear Energy Partnership (GNEP) – which would involve reprocessing spent fuel to extract weapon-usable plutonium for use in new reactor fuel – is “not a credible strategy for resolving either the radioactive waste or proliferation problem.” In fact, the Keystone report states that GNEP could actually worsen the proliferation problem by encouraging research and development activities in non-nuclear weapon states that would “pose a grave proliferation risk.”

“By promoting the commercial production and use of plutonium, the Bush administration is facilitating the spread of nuclear bomb materials around the world,” said Edwin Lyman, senior staff scientist at UCS’s Global Security Program. “Congress should pull the plug on GNEP before it further undermines international nonproliferation and counterterrorism efforts.”

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The Union of Concerned Scientists is the leading science-based nonprofit organization working for a healthy environment and a safer world. Founded in 1969, UCS is headquartered in Cambridge, Massachusetts, and has offices in Berkeley, California, and Washington, D.C. For more information, go to www.ucsusa.org.